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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,429	03/10/2005	Georg Bostanjoglo	2002P11066WOUS	5406

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Siemens Corporation
Intellectual Property Department
170 Wood Avenue South
Iselin, NJ 08830

EXAMINER

WYSZOMIERSKI, GEORGE P

ART UNIT	PAPER NUMBER
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1793

MAIL DATE	DELIVERY MODE
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10/31/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/527,429	Applicant(s) BOSTANJOGLO ET AL.	
	Examiner George P. Wyszomierski	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-38 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 19-38 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>3/10/05</u> . | 6) <input type="checkbox"/> Other: ____. |

1. *Claim objection*-- Claim 19 is objected to because, in line 5 of this claim, the word "with" is misspelled.

2. Claims 19-38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The scope of the instant claims is uncertain because, in line 7 of independent claim 19, it is unclear what the relationship is between "compacting" and "directional solidification" and/or "epitaxial growth". The first of these terms implies a mechanical process of some sort, while the latter two terms are directed to processes of forming certain crystalline structures in a material. It is unclear how compacting a material results in either the claimed directional solidification or epitaxial growth. For purposes of examination, the claims will be interpreted as requiring some combination of epitaxial growth, directional solidification, and compacting of layers.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 19-26 and 34-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Kurz et al. (U.S. Patent 6,024,792).

Kurz discloses building up a three-dimensional monocrystal upon a plate-shaped starting material of a given crystalline structure by providing layers of a buildup material, and treating the layers with a laser beam such that they melt and directionally solidify at a speed that results in

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an epitaxial growth with respect to the starting material. With respect to instant claim 25, Kurz column 1, lines 44-49 indicates that the presently claimed embodiment can also be performed by the prior art process. With respect to instant claims 34 and 35, note Kurz column 3, lines 10-13. With respect to instant claim 36, no material other than the mentioned materials appears to be present in any significant quantity as a result of the prior art process. While Kurz does not use the terms "compact" or "bond" as recited in claims 19-23, it would appear that these features are inherent in the prior art process, i.e. the act of melting and solidifying the buildup material in Kurz results in a unified, compact material that is for all practical purposes a single, bonded unit. Thus, all aspects of the claimed invention are held to be fully disclosed and/or inherent in the disclosure of Kurz et al.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurz et al.

Kurz, discussed supra, does not specifically mention the features as recited in the instant claims. However, with respect to claim 37, the layer thicknesses disclosed in Kurz column 3, lines 7-9 significantly overlaps that presently claimed. With respect to claim 38, it would appear that any geometrical configuration capable of being melted and directionally solidified by the process disclosed in the prior art would fall within the purview of the Kurz

process. Thus, a prima facie case of obviousness is established between the disclosure of Kurz et al. and the presently claimed invention.

7. Claims 27-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurz et al. in view of McCay et al. (U.S. Patent 6,350,326).

The Kurz patent, discussed supra, does not specify the material gradient as required by instant claims 27-32 or the movement of a plurality of laser beams as recited in instant claim 33. McCay similarly discloses a method of surface treatment of a material through the use of lasers to create a substantially unified final product; see McCay column 6, lines 58-62. McCay indicates the conventionality in the art of performing the laser modification process on selective and localized regions (see McCay column 6, line 47) and discloses varying the composition of the precursor materials (see McCay column 7, lines 5-6). McCay column 9, lines 45-48 indicates that additional lasers or plural beams from a single laser source may be employed in such a process. Because the present claims recite nothing more than conventional ways for modifying laser surface treatments of metal, as indicated by McCay, the combination of Kurz et al. and McCay et al. is held to create a prima facie case of obviousness of the presently claimed invention.


8. The remainder of the art cited on the attached PTO-892 and 1449 forms is of interest. This art is held to be no more relevant to the claimed invention than the art as applied in the rejections, supra.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Wyszomierski whose telephone number is (571) 272-1252. The examiner can normally be reached on Monday thru Friday from 8:00 a.m. to 4:30 p.m. Eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on (571) 272-1244. All patent application related correspondence transmitted by facsimile must be directed to the central facsimile number, (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


GEORGE WYSZOMIERSKI
PRIMARY EXAMINER
ART UNIT 1793

GPW
October 29, 2007